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March 2, 1976

Ian G. Scott,
Q.C., Council
MacKenzie Valley Pipeline Inquiry
c/o Eskimo Inn
Inuvik, N.W.T.

MACKENZIE VALLEY PIPELINE INQUIRY
EXHIBIT NO. 498 A 1 Mar. 23/26
Yellowknife N.W.T.
FOR IN Commission Counsel

Dear Mr. Scott:

In January when the Environmental Protection Board was on the stand in Yellowknife, you requested that we submit any additional information that we might wish to. I would like to add a few comments from that session as well as from the one in Inuvik.

Some of the most contentious issues related to wildlife and the possibility of severe impact as a product of building and maintaining a gas pipeline. One of these animals is the barren ground caribou which migrates from the northern forest up across the tundra for calving and summer feeding. Basic question has been the potential impact on this herd on the interior vs. the coastal routes, as well as the total impact in general. While I am not a wildlife biologist, I have worked with wildlife biologists especially on our Devon Island ecosystem study and have given a great deal of thought to this problem. It seems to me that in dealing with animals the same basic procedure must be used sooner or later as we do with plants. That is to impact the organisms with a simulated stress that we believe is closely related to the ones that they may actually be subjected to as to study their response. To date, on the animal side, there has been very little of this other than the simulated noise in relation to caribou and snow geese and the flight patterns in relation to geese and other water fowl.

Regarding the caribou, the major impacts that will potentially reduce their numbers are disturbance during their winter grazing, the crossing of the Demster highway during spring and fall migration, the impact of disturbance during spring calving, and summer disturbance while grazing on the coastal plain. Unless simulated disturbances are provided on these animals these contentious questions will never be resolved and could be argued in court for years with no proper resolution. You have seen enough of this already during the hearings, the fact that caribou experts

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agree not to agree on problems and their resolution. In my humble opinion what really needs to be done then, is to disturb the animals on winter range and to study the effect that this has on their over all ability to feed and energy budget relationships in terms of weight loss prior to spring migration. It is unreasonable to expect the applicants to provide information of this kind now. The impact of the highway will be severe if they actually cross the highway once or twice a year once that highway has numerous cars and trucks on it. The only way to regulate this will be to ban movement of vehicles during the period of migration. Or to have long blocks of time each day in which no vehicles traverse the road during this migration period.

The other important area on which data can be gathered not before an application is approved, but at least over the next one to two years would be to buzz the animals with planes during the calving and post calving period and determine from ground studies the percentage of cow-calf bonds that are actually broken and thus determine the mortality level. Unless this important research is done and unless these animals are actually impacted we will have no resolution to this very contentious issue. This would be relatively inexpensive research to conduct and it certainly should be conducted if any credibility is to be given to the biologist who continually point to the problems of calving and post-calving.

The other aspect that needs similar study is that of the affect on snow geese and water fowl nesting as a product of plant flights. Again ground information on density and nesting pattern is essential prior to the initiation of the flights. The flights then should be flown at specified intervals for a specified number of days and then again assess the number of nests that have been abandon or young that have not made it through. This will be somewhat more difficult to evaluate and yet it is a feasible one to do.

The final point deals with information that came up when I was being cross examined. This related to harvest of spruce in the MacKenzie Delta. In normal plant succession, white spruce enters after a period of 50-100 years and grows to maturity. Based upon the work of Don Gill and our general knowledge of areas of this kind elsewhere, one can predict that the active layer will become less deep under a dense spruce forest than prior to the development of a spruce forest. Thus it is also possible to predict that white spruce will form only one generation along these river channels and will be replaced by black spruce or tall shrubs. Thus, whether the trees are harvested or not is somewhat immaterial in terms of the length that that forest stand will maintain itself, for it will not replace itself under normal circumstances unless the surface is opened up and the active layer is forced to become deeper. A subject that did not come up during the cross examination is the importance of muskrats in the upper delta portion. It is assumed that little industrial activity will take place in that area, and thus there will probably be relatively little impact on these animals.

One of the men in the CWS has done a great deal of research in the area but he has not made much of his information available. Unless population numbers are known for known areas and there normal yearly fluctuation it will again be impossible to determine whether there has been any impact on these animals during the course of pipeline construction and related activities. Thus these kinds of data hopefully can be brought into the open during your hearings.

The final points related to the reindeer herd east of the MacKenzie Delta. This is now a viable herd being looked after by people at Tuktoyaktuk. Each spring during calving, quite a few calves do not survive. This seems to be a normal year to year pattern. However, during the course of development of the Parsons Lake gas field, should people observe this loss of reindeer in the springtime, there could be strong fears that this is directly related to the industrial effort in the area. It may be that additional calf will result from this activity, but unless there are estimates of herd loss in the spring time from previous years there again will be no data bas available to settle such arguments.

My major plea in all of this is to have enough background information of normal variability and estimates of actual impact on animals so that future problems can either be laid to rest as really being no problem or in fact there level of magnitude assessed and proper management adjustments made. This can be done with wildlife although it is more difficult than with vegetation and I urge the inquiry aid and abet this much needed information to serve the management tool.

Sincerely,

Pat Mash for,

Lawrence C. Bliss
Professor of Botany

LCB:pm

